

When a layer of pneumatically applied mortar is to be covered by a succeeding layer, it shall first be allowed to take its initial set. Then all laitance, loose material, and rebound shall be removed by brooming. Any laitance that has been allowed to take final set shall be removed by abrasive blasting and the surface cleaned with an air water jet. In addition, the surface will be sounded by the Engineer with a hammer for hollow sounding areas resulting from rebound pockets or lack of bond.

423.03.08 Curing and Cold Weather Protection. Curing and cold weather protection shall conform to Section 420. Mortar shall be kept continuously wet for at least seven days after application. The use of a liquid membrane forming compound will be permitted with prior approval of the Engineer.

423.03.09 Finishing. The area of repair on existing structures shall be finished to match the existing structure.

423.04 MEASUREMENT AND PAYMENT. Pneumatically Applied Mortar will be measured and paid for at the Contract unit price per cubic foot of mortar in place. The payment will be full compensation for inspections, removal of existing concrete, abrasive blasting, and furnishing all cement, sand, water, test panels, drilled holes, reinforcement bars and wire mesh, mortar, expansion bolts, cores, storage, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

SECTION 424 — RESERVED

SECTION 425 — LIGHTWEIGHT SUPERSTRUCTURE CONCRETE

425.01 DESCRIPTION. This work shall consist of constructing the lightweight concrete portions of the structure as specified in the Contract Documents.

425.02 MATERIALS. Materials shall conform to 420.02 except as modified herein.

Control testing for Compression Test and Unit Weight of Cured Concrete shall be two companion cylinders for each 100 yd³, or fraction thereof, as specified in M 195.

Lightweight concrete shall have a minimum compressive strength of 4500 psi. It shall be composed of Type I portland cement, an approved air entraining admixture, Type A or D chemical admixture, water, lightweight coarse aggregate, fine aggregates and be proportioned as specified in 211.2 of the ACI's Recommended Practices for Selection Proportions for Structural Lightweight Concrete. Fly ash or ground iron blast furnace slag may be substituted for portland cement as specified in 902.06.

Minimum cement content shall be 700 lb/yd³. The maximum average unit weight of the cured concrete shall be 118 lb/ft³. Air entrainment shall be determined by volumetric method as specified in T 196, and shall be 6 to 9 percent (entrapped plus entrained). Slump shall be 3 in. maximum when the absorption of the coarse aggregate is greater than 10 percent, but shall be 2 to 5 in. when the absorption of the coarse aggregate does not exceed 10 percent. Water added to the mix using saturated aggregates shall not exceed a water/cement ratio of 0.45. Net water including the absorbed water shall not exceed a water/cement ratio of 0.75.

425.03 CONSTRUCTION. Construction shall conform to 420.03 and the following:

Handling of lightweight aggregates shall be arranged to provide a thorough sprinkling of the aggregates during the stockpiling to produce damp aggregate. Sprinkling shall be done to obtain uniform distribution of moisture. Aggregates shall then be allowed to drain as long as necessary to produce a uniform moisture content, and the moisture content shall be maintained as much as practical until the aggregate is used. The admixtures shall be added to the mix as specified in the manufacturer's recommendations.

425.03.01 Existing Structures. Existing bridge decks shall be removed as specified in 405.03.02. The Contractor is cautioned that the deck replacement material may be lighter than the existing deck and the deflection caused by the lighter material will be less than the material removed. The Contractor shall compute modified rebound figures to be used in lieu of dead load deflections to establish grade controls to produce finished tops of concrete bridge decks that will be true to as planned line and grade.

425.04 MEASUREMENT AND PAYMENT. Lightweight concrete structures will be measured and paid for as specified. The payment will be full compensation for all forms and form removal, reinforcement steel, curing and misting, scuppers, mechanical and electrical work, all cost incidental to the conducting of tests for oxygen content and presence of gases and applying mechanical ventilation to

confined spaces, year built markings, and for all material, labor, equipment (including safety equipment), tools, and incidentals necessary to complete the work.

The construction of drainage and weep holes, any pipe necessary, expansion material, flashing, dampproofing, membrane waterproofing, epoxy bonding compound, joints and their placement will not be paid for but the cost will be incidental to the lightweight concrete item. No deduction in lightweight concrete quantities will be made for pipes or conduits having diameters less than 8 in., reinforcement steel, anchors, or any other appurtenances.

425.04.01 Lightweight Superstructure Concrete will not be measured but will be paid for at the Contract lump sum price unless otherwise specified in the Contract Documents.

425.04.02 Lightweight concrete parapets and median barriers will not be measured but will be paid for at the Contract lump sum price for the pertinent Lightweight Concrete Parapet or Lightweight Concrete Median Barrier items.

425.04.03 Floodlighting will be measured and paid for as specified in 420.04.06.

425.04.04 Linseed Oil Protective Coating will be measured and paid for as specified in 420.04.07.

SECTION 426 — LATEX MODIFIED CONCRETE OVERLAY FOR BRIDGE DECKS

426.01 DESCRIPTION. This work shall consist of removing a specified amount of the existing bridge deck mechanically or through hydromilling, removal of additional areas of deteriorated concrete, cleaning all surface areas to be overlaid, replacing deteriorated reinforcement steel, and placing latex modified concrete (LMC), all as specified in the Contract Documents.

Restrictions. Placement of LMC on bridge decks is prohibited between November 30 and April 30. The Contractor shall not scarify any bridge deck that will not be overlaid and cured prior to this restriction.

426.02 MATERIALS.

Fine Aggregate
Coarse Aggregate

901.01
901.01, Size No. 7